

# Terrestrial - Aquatic Ecosystem Connections

Individual Project 2:  
Discussing Ways that Marine Ecosystems and  
Terrestrial Ecosystems Influence One Another

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# Terrestrial Ecosystems

Terrestrial habitats are ones that are found on land, like forests, grasslands, deserts, shorelines, and wetlands.

Terrestrial habitats also include man made habitats, like farms, towns, and cities, and habitats that are under the earth, like caves and mines. The terrestrial ecosystem

that I've chosen to discuss is a very familiar one: the human ecosystem. Yes, people like you and me. The human ecosystem represents human communities and how they relate and respond to their environment!





# Aquatic Ecosystems

The aquatic ecosystem that I've chosen to link to the human ecosystem is the coral reef. The reef is made up of thousands of corals and the actual animal that makes up the physical coral is called a polyp. Coral reef ecosystems are like under water cities and are only found in tropical waters around the world!





# One Connection

One connection between humans and the coral reef is the way in which people depend on tropical marine systems. Some people, like people who live in Fiji rely on the reefs to give them fish for food. The Fijians have a system run by the Chiefs, which determines when certain types of fish can be caught and where. They have been using this management system for thousands of years and it has allowed the Fijians to survive without over-harvesting their reefs.





# A Global Connection

The Fijians are just one of hundreds of cultures in the South Pacific and worldwide that rely directly on the tropical marine system for survival. Others include Papua New Guinea, Guam, and even American Samoa.

Throughout Southeast Asia, coral reef fisheries provide ten to 25 percent of the protein for people living along the coast.



# A Commerce Connection

In Fiji, the native people do not rely on the reefs for food alone, but they rely on this ecosystem for commerce as well. Many people from all over the world visit Fiji because of their beautiful and awe-inspiring reefs. So many so, that the human ecosystem in Fiji relies on the income from tourists that visit their island simply because of the reef. So instead of food, the reefs affect their economy as well!

In fact, the Fijian people are so grateful for their reefs that as apart of their culture, they have special ceremonies to thank the reefs and waters for giving them so much to survive on.





# Another Commerce Connection

Tourism is the largest industry in the world and tropical destinations such as Cancun and Jamaica rely on their coral sand beaches to attract tourists. In the Indian Ocean, almost eighty percent of the islands are built exclusively of reef material. For the 20 million scuba divers of the world, a tropical reef diving holiday is high on the 'must do' list.





# A Negative Influence



We've just discussed how influential the coral reef ecosystem is to humans that rely on it for food and commerce, but this could also negatively affect the coral reef ecosystem. Some fishermen stun fish by squirting cyanide, a very toxic poison, into reef areas where fish seek refuge. The poison does not kill, but disorients the fish in the coral where they hide.

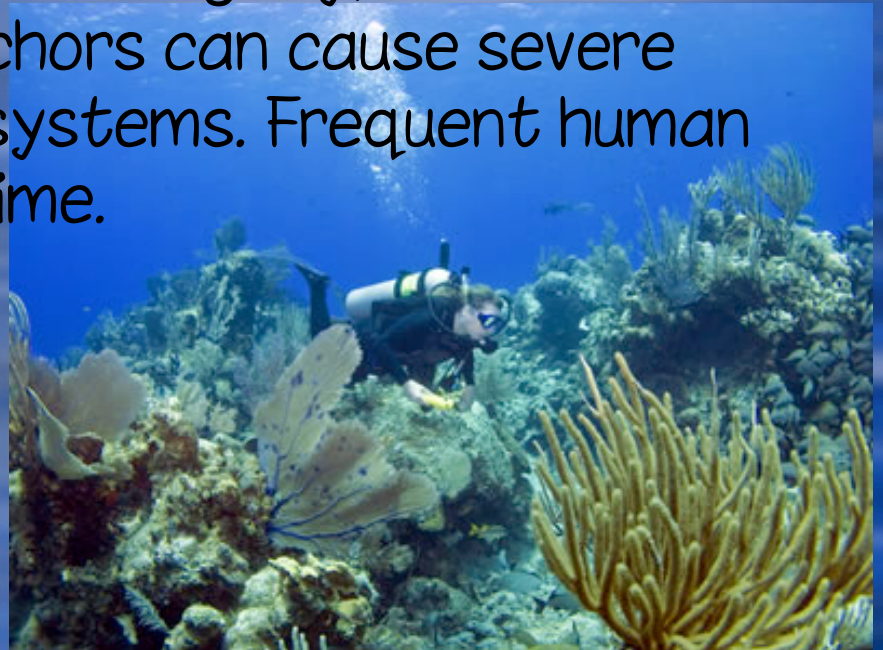


The fisherman then rip apart the reefs with crowbars to capture the fish. In addition, cyanide kills coral polyps and the symbiotic algae and other small organisms necessary for healthy reefs. Cyanide fishing is common in the South Pacific and Southeast Asia.



# Human Contact with Coral Reefs

The reefs are still vulnerable to the impact of other human activities. Even an accidental touch from divers and snorkelers can significantly damage the delicate coral polyps. Touching Reefs, even slightly, can harm them. Boats and dropped anchors can cause severe damage to these fragile ecosystems. Frequent human contact kills the reefs over time.



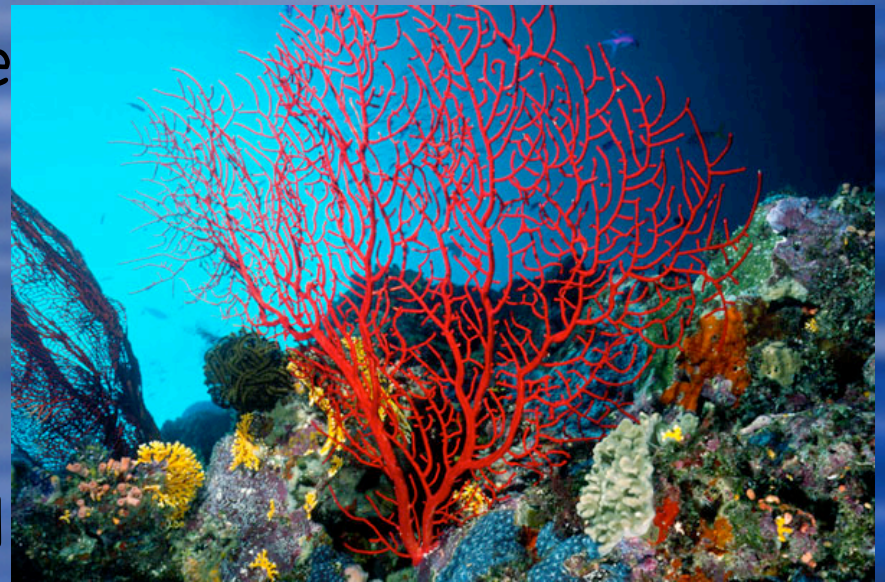


# Another Negative Influence

Silt from eroded soil in runoff water can block sunlight. Without sunlight, photosynthesis does not occur and reefs gradually die.

And not only silt, but fertilizer runoff, pesticides and other chemicals can poison reefs.

And again, a sad and adverse effect from the human ecosystem could be untreated or improperly treated sewage. This promotes the growth of algae, which also harms coral reefs.





# Medical Breakthroughs



Increasingly, coral reefs are largely untapped resources for future pharmaceutical breakthroughs. The best-known example of coral reef's medicinal value is AZT, a treatment for people with HIV infections, which is based on chemicals found in a Caribbean reef sponge. Also, more than half of all new cancer drug research focuses on marine organisms.



# Conclusion



Based on the information aforementioned, there is a great deal of interconnectivity between the human ecosystem and the coral reef ecosystem. However, most of the things mentioned seem to positively affect humans and negatively affect the coral reef systems...

Humans receive resources, food, and economic stimuli from the coral reefs; whereas the human communities either harm or promote long-term negative effects that would eventually destroy the reef ecosystems.